Storm Damage Restoration Project

Blue Lake Slide Stabilization and Culvert Replacements

In Humboldt County on State Route 299
01-HUM-299-R8.5 and R27.53/R27.7
EA 01-47440

Focused Initial Study with
Proposed Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

December 2008

Caltrans

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for a proposed project located in Humboldt County, California. The document describes why the project is being proposed, the existing environment that could be affected by the project, and potential impacts from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Initial Study. Additional copies of this document are available for review at the Caltrans District 1, North Region Environmental Services, 1656 Union Street, Eureka, CA 95501 and at the Humboldt County Library, 1313 3rd St., Eureka, CA 95501.

- We welcome your comments. If you have any concerns regarding the proposed project, send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  CA Dept. of Transportation
  North Region Environmental Services
  Gary Berrigan, Senior Environmental Planner
  P.O. Box 3700
  Eureka, CA 95502-3700

- Submit comments by the deadline: February 2, 2009.

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Gary Berrigan, North Region Environmental Services, P.O. Box 3700, Eureka, CA 95502-3700; (707) 441-5730 Voice, or use the California Relay Service TTY number, 711.

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01-HUM-299-R8.5 and R27.53/R27.7
EA 01-47440

FOCUSED INITIAL STUDY WITH
PROPOSED MITIGATED NEGATIVE DECLARATION

Submitted Pursuant to: (State) Division 13, California Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

12-31-08
Date of Approval

Cindy Anderson, Chief
North Region Environmental Services -
North

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to make repairs and to stabilize two segments of State Route (SR) 299. Location 1 at Post Mile R8.5 includes dewatering a landslide by installing four drainage galleries, installing horizontal drains, and replacing a damaged culvert. Location 2 at Post Mile R27.53/R27.7 includes replacing a damaged culvert and installing a drop inlet.

Determination

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have no effect or a less than significant effect on agricultural resources, air quality, cultural resources, geology/soils, hazardous materials, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation/traffic, utilities/service systems or visual aesthetics.
- The proposed project would have less than significant impact on biological resources or hydrology/water quality based on the following mitigation measures:
  1. Mitigation will be provided for the reduction of seep wetlands.
  2. Onsite riparian mitigation will be provided for the temporary and permanent impacts associated with the culvert work in the drainages.

_____ _____

Cindy Anderson, Chief
North Region Environmental Services – North
California Department of Transportation

Date

Initial Study

Project Title

Blue Lake Slide Stabilization Storm Damage Restoration Project

Lead Agency Name, Address and Contact Person

California Department of Transportation
1656 Union Street, Eureka, CA 95501
P.O. Box 3700, Eureka, CA 95502-3700
Gary Berrigan, North Region Environmental Services Branch E1
(707) 441-5730

Project Location

The proposed project site is located on State Route 299 in Humboldt County. There are two locations, one approximately 3 miles east of Blue Lake (PM R8.5) and the other approximately 11 miles west of Willow Creek (PM R27.53). Refer to the Project Location Map and the Project Vicinity Map on pages 5 and 6.

Project Sponsor's Name and Address

California Department of Transportation
1656 Union Street, Eureka, CA 95501
P.O. Box 3700, Eureka, CA 95502-3700

Purpose and Need

The purpose of this project is to permanently restore the highway facilities to pre-storm conditions. The project is needed to maintain a safe and operational roadway for the traveling public.

Culvert failure has contributed to landslide movement, causing the roadway to settle downslope at a more rapid rate at PM R8.5. At PM R27.5/R27.7, culvert failure is threatening roadway stability and is not adequately conveying storm water runoff.

Description of Project

The California Department of Transportation (Caltrans) proposes to make repairs and to stabilize two segments of State Route (SR) 299 in Humboldt County. Location 1 at Post Mile R8.5 includes dewatering a landslide and replacing a damaged culvert. Work would include re-establishing an old logging road, building new access roads with removal of vegetation, repaving the highway, work in and around stream channels, removal of non-native plants, and re-vegetation work. Location 2 work

includes replacing a damaged culvert at Post Mile R27.53 and installing a drop inlet at PM R27.7. (See vicinity maps for locations).

Project Alternatives

The project alternatives below were developed as potential solutions to address the purpose and need for the project.

Alternative 1 proposes to reconstruct the highway to its previous footprint, construct vertical drainage galleries (wells) at four locations, install horizontal drainage pipes in three locations, abandon the existing separated culvert, install a new culvert at PM R8.5, repair and enhance the stream channel and perform general vegetation enhancement to the area. Enhancement would be done by removing invasive non-native plants, including pampas grass (*Cortaderia selloana*), and planting/seeding the area with a mixture of native grasses, shrubs and trees.

This alternative proposes to intercept the subsurface water and remove it from the slide mass via a series of vertical drainage galleries and horizontal drains. To intercept this water, two drainage galleries would be placed upslope of the roadway and two below the roadway. The vertical drainage galleries would be strategically placed to target areas that are holding large amounts of subsurface water. Their placement would be designed to draw down the groundwater surface within the landslide and stabilize the area. See layout map on page 6 for approximate placements of the galleries, access roads and horizontal drains (including widths and lengths). This alternative also includes replacing two damaged culverts at Post Miles R27.53/R27.7. Cost to build is 2.5 to 3 million dollars.

Alternative 2 proposes the installation of ground anchors. This alternative proposes placing a ground anchor waler system downslope of the roadway to stabilize the smaller of the two identified earth movements at this location. The walers would be used to 'pin' the ground at this location to keep it from moving. With this alternative there is a risk of continued movement of the slide mass downhill of the waler, and roadway settlement could reoccur. Cost to install the walers is estimated to be over 10 million dollars. This alternative also includes replacing two damaged culverts at Post Miles R27.53/R27.7. *This alternative was considered, but was determined to be not feasible due to cost and, thus, eliminated for further evaluation.*

Alternative 3 – No Build The area at PM R8.5 would continue to move and Caltrans Maintenance forces would be required to work on this section of roadway every few

months. The roadway would continue to degrade and pose a safety hazard to the traveling public. Also, the cost of continued maintenance is a concern. In addition, erosion from the damaged culverts would continue to deliver sediment to the North Fork of the Mad River. Potential for catastrophic failure of the slope would bring a massive amount of earth into the North Fork of the Mad River, causing increased sedimentation and/or blockage.

Surrounding Land Uses and Setting

The project lies within a rural unincorporated and undeveloped area of Humboldt County. The areas adjacent to the highway are forested and used for timber production.

Biology

Location 1 - The majority of the site is on an active landslide that was logged in the 1970's. The current forest habitat is a mixed stand dominated by California bay (*Umbellularia californica*). The stand also includes red alder (*Alnus rubra*), coast redwood (*Sequoia sempervirens*), Douglas-Fir (*Pseudotsuga menziesii*), Big-leaf Maple (*Acer macrophyllum*), and western red-cedar (*Thuga plicata*).

There are three unnamed tributaries that flow into a fourth unnamed tributary that flows to the North Fork of the Mad River. Also identified in a 2007/2008 delineation of the project area were six wetland seeps.

Location 2 – This site is located in an open Oak Woodland prairie.

Cultural

It was determined that this undertaking has no potential to affect known or reported historic properties. However, as required by Caltrans' policy, if suspected subsurface archaeological materials, (e.g. concentrations of obsidian, shell, bone, or smoothed/pecked stones) are unearthed during project construction, work must be halted in the area of the find(s), and a Caltrans archaeologist shall be notified. The Caltrans archaeologist will travel to the job site at the earliest possible moment to evaluate the situation.

Permits and Approvals Needed

- Section 7 Endangered Species Act Consultation with United States Fish and Wildlife Service
- 401 Water Quality Certification - North Coast Regional Water Quality Control Board

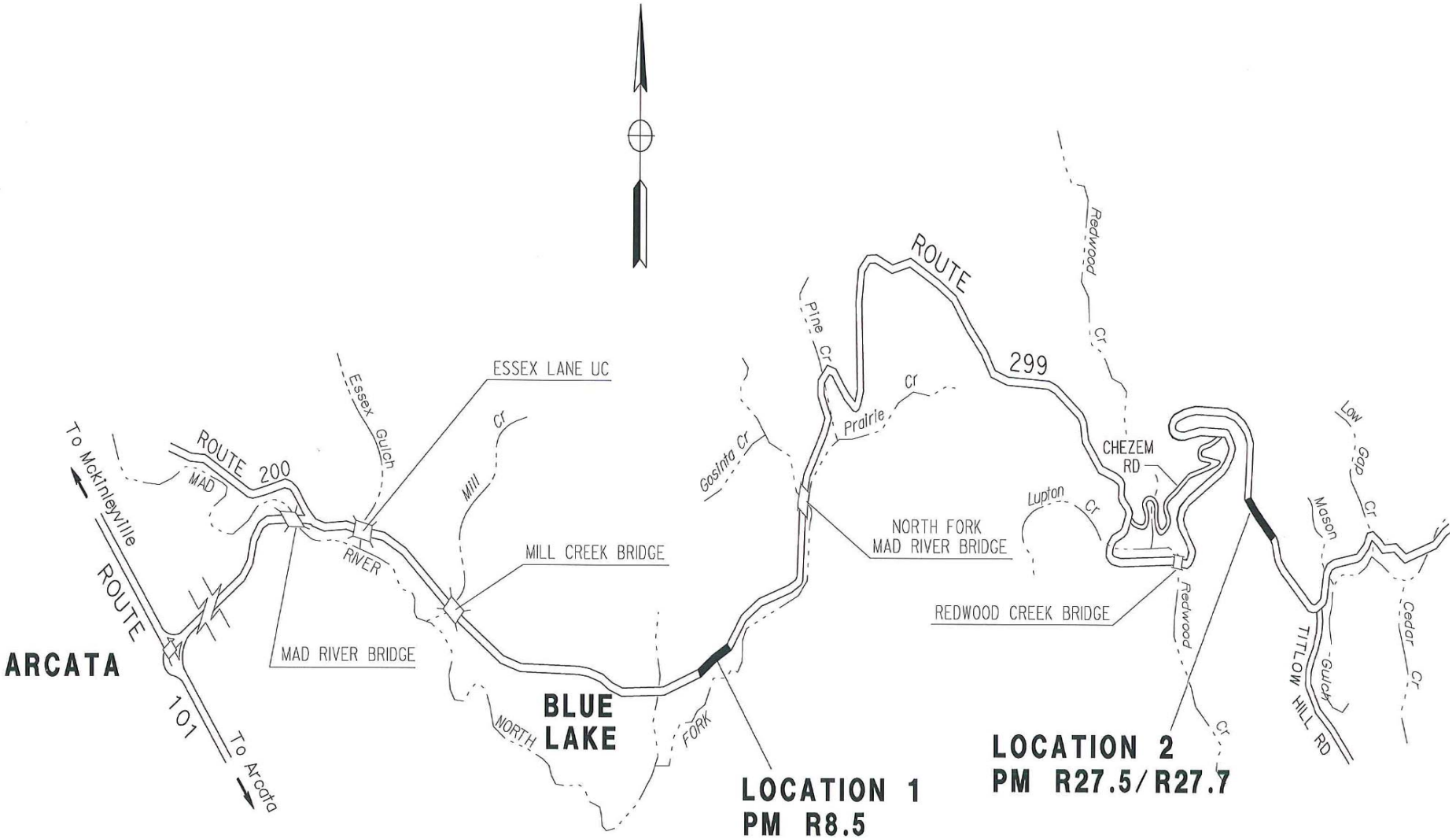
- Section 1602 Lake and Streambed Alternation Agreement - California Department of Fish and Game
- Section 404 Nationwide Permit – United States Army Corps of Engineers

Zoning

Location 1 and 2 - Humboldt County has zoned the area adjacent to the highway as "Timber Production Zone (TPZ)," and the allowable uses are timber management activities.

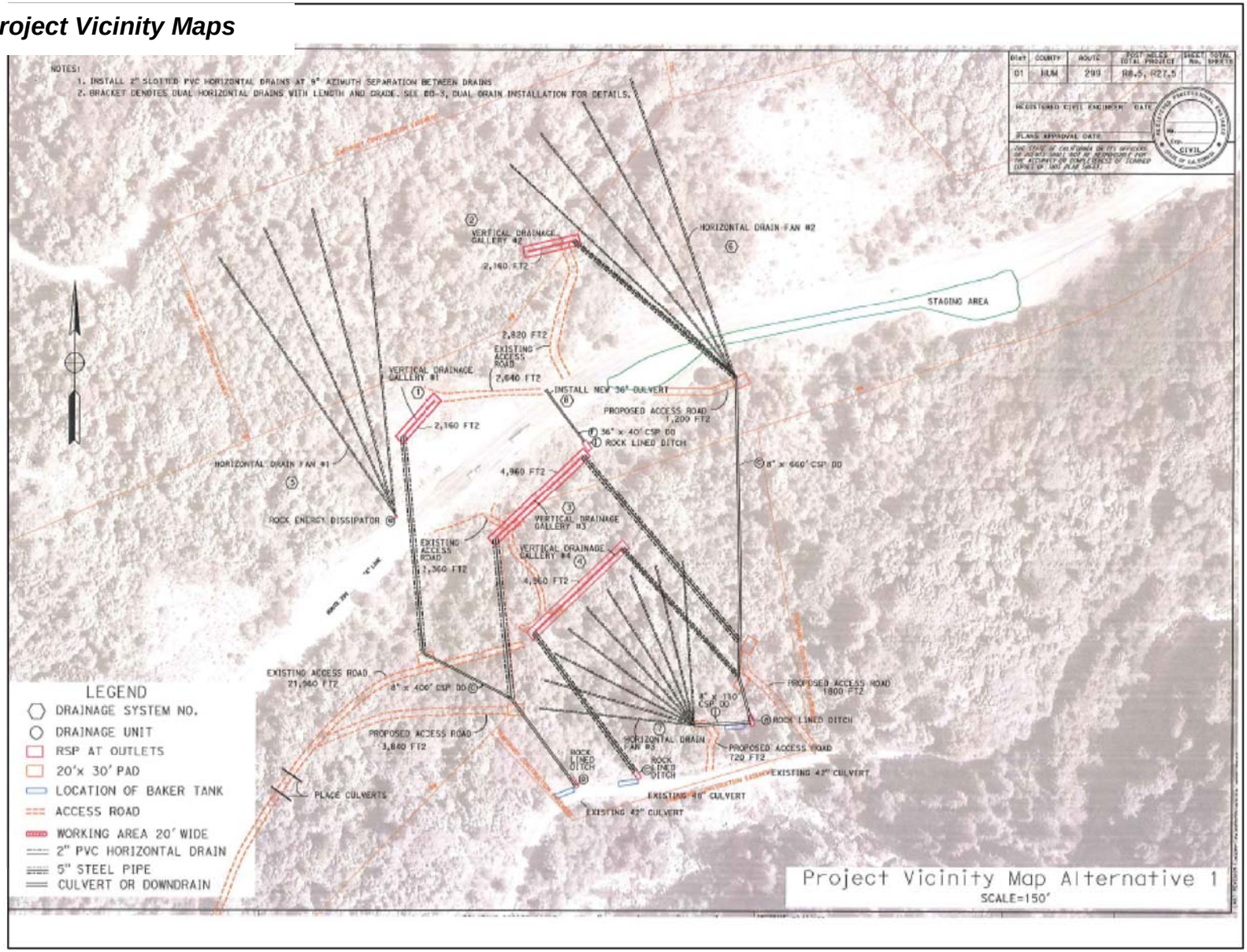
Right of Way

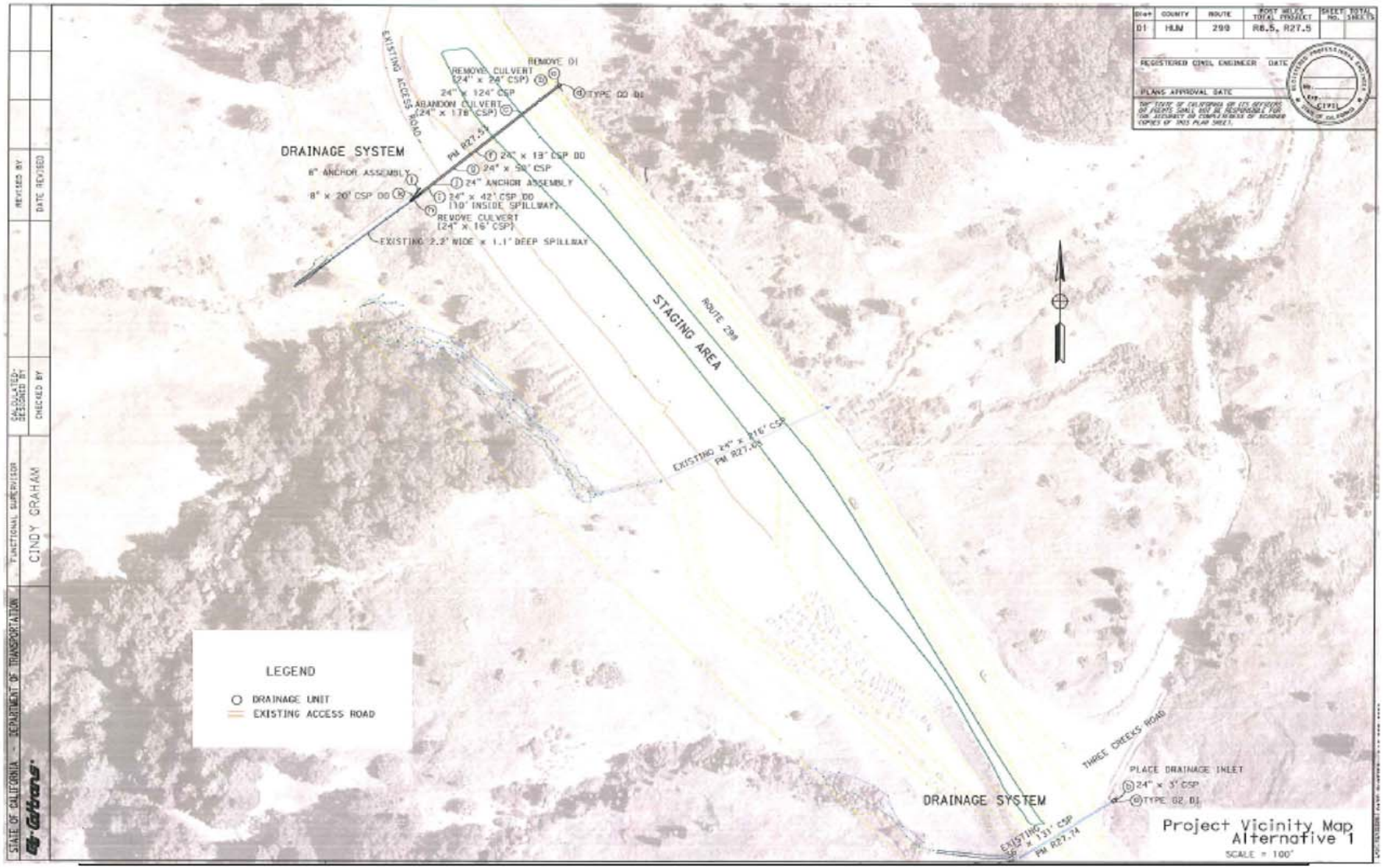
Caltrans will need to obtain a Temporary Construction easement from the adjacent landowners at Location 1. No additional right of way is needed for Location 2.


ARCATA
To McKinleyville
ROUTE 101
To Arcata
ROUTE 200
MAD
RIVER
MAD RIVER BRIDGE
Essex Gulch
ESSEX LANE UC
Mill Cr
MILL CREEK BRIDGE
BLUE LAKE
NORTH FORK
Gosinta Cr
Pine Cr
Prairie Cr
ROUTE 299
NORTH FORK MAD RIVER BRIDGE
Redwood Cr
CHEZEM RD
Lupton Cr
REDWOOD CREEK BRIDGE
Redwood Cr
Low Gap Cr
Mason Gulch
TITLOW HILL RD
Cedar Cr
LOCATION 1
PM R8.5
LOCATION 2
PM R27.5/R27.7

NO SCALE

Project Vicinity Maps




DRAINAGE SYSTEM
REMOVE CULVERT (24" x 24" CSP)
REMOVE 01
TYPE GO 01
24" x 124" CSP
ABANDON CULVERT (24" x 178" CSP)
EXISTING ACCESS ROAD
PM R27.54
24" x 13' CSP 00
24" x 32' CSP
24" ANCHOR ASSEMBLY
8" ANCHOR ASSEMBLY
8" x 20' CSP 00
24" x 42' CSP 00 (10' INSIDE SPILLWAY)
REMOVE CULVERT (24" x 16' CSP)
EXISTING 2.2' WIDE x 1.1' DEEP SPILLWAY
STAGING AREA
ROUTE 299
EXISTING 24" x 216' CSP
PM R27.00
THREE CREEKS ROAD
PLACE DRAINAGE INLET
24" x 3' CSP
TYPE G2 01
DRAINAGE SYSTEM
EXISTING 36" x 131' CSP
PM R27.74
LEGEND
DRAINAGE UNIT
EXISTING ACCESS ROAD
Project Vicinity Map
Alternative 1
SCALE = 100'
DIST
01
COUNTY
HUM
ROUTE
299
POST MILES TOTAL PROJECT
R8.5, R27.5
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
CIVIL
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
CINDY GRAHAM
REVISED BY
DATE REVISED

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- [ ] Aesthetics
- [ ] Agricultural Resources
- [ ] Air Quality
- [X] Biological Resources
- [X] Cultural Resources
- [X] Geology/Soils
- [ ] Hazards and Hazardous Materials
- [X] Hydrology/Water Quality
- [ ] Land Use/Planning
- [ ] Mineral Resources
- [ ] Noise
- [ ] Population/Housing
- [ ] Public Services
- [ ] Recreation
- [ ] Transportation/Traffic
- [ ] Utilities/Service Systems
- [ ] Mandatory Findings of Significance

Impacts Checklist

The impacts checklist starting on the next page identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

A brief explanation of each California Environmental Quality Act checklist determination follows each checklist item.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
I. AESTHETICS — Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	X
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	X

"No Impact" determinations in this section are based on the design and re-vegetation plan for the area after construction.

II. AGRICULTURE RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X

"No Impact" determinations in this section are based on the fact that there are no farmlands at either location.

III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X

"No Impact" determinations are based on the location of the project in a rural, undeveloped area, compliance with local and regulatory requirements, the temporary nature of the road construction activities and geographic features and topography of the area.

IV. BIOLOGICAL RESOURCES — Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X

"No Impact" determination is based on findings of the project Biologist, September 2008, and the Biological Evaluation for Northern Spotted Owl and the coho salmon, and with informal consultation concurrence from USFWS.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	X	☐	☐

"Less than a significant impact with mitigation" - see "Affected Environment" discussion for details.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

"No Impact" determinations in this section are based on the findings of the project Biologist, September 2008, and in addition, review of the Green Diamond Habitat Conservation Plan dated October 2006.

V. CULTURAL RESOURCES — Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X

"No Impact" determinations in this section are based on the Historic Resource Compliance Report, October 2008. No historic properties are affected.

VI. GEOLOGY AND SOILS — Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?			X	

See Geologic Conditions Section under Affected Environmental page 20.

b) Result in substantial soil erosion or the loss of topsoil?				X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	X	☐

See "Affected Environment" for discussion of this section.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	☐	☐	☐	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	X

"No Impact" determinations in this section are based on conversations with the Project Geotechnical Engineer, September 2008 and the Geotechnical Report July 2007.

VII. HAZARDS AND HAZARDOUS MATERIALS —
Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	X

"No Impact" determinations in this section are based on review of the aerial photographs, area mapping, the County General Plan, and discussions with the Project Engineer and Initial Study dated September 2006.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

"No Impact" to airport land use and private airstrips is based on review of aerial photographs of the project area; no airports or airstrips are located within the project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X

"No Impact" statement is based on review of the General Plan Safety Element and the scope and location of the project.

VIII. HYDROLOGY AND WATER QUALITY —
Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	X	☐

"Less Than Significant Impact" - To minimize potential and temporary impacts, an Erosion Control Plan will be prepared and implemented. During construction, Best Management Practices, such as waddles, straw bales, and silt fencing will be placed to control transport of sediment and erosion during storm events. Water from the initial release of the Drainage Galleries will be put into Baker tanks. There is further discussion of this topic in "Affected Environment".

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X

This project is designed to lower the groundwater table/dewater the landslide at this location. There are no known wells that will be affected by this project. After the initial release, water that would be trapped in the slide will be daylighted and will flow into the North Fork of the Mad River.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?	☐	☐	☐	X

"No Impact" determinations in this section are based on compliance with applicable Federal permits and regulations.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	☐	☐	☐	X
e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
drainage systems or provide substantial additional sources of polluted runoff?				
f) Otherwise substantially degrade water quality?			X	

"Less Than Significant Impact" This project should lower the groundwater table at this location. This will be to prevent or slow down the landslide at this location. Work will include action to prevent additional sedimentation of the North Fork of the Mad River. See "Affected Environment" for additional details.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Result in inundation by a seiche, tsunami, or mudflow?				X

"No Impact" determinations in this section are based upon the project location's elevation above water bodies and distance from the ocean.

IX. LAND USE AND PLANNING — Would the project:

a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

"No Impact" determinations in this section are based upon compliance with the applicable area plans, programs, and regulations. No communities exist within the project area.

X. MINERAL RESOURCES — Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important				

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	X

"No Impact" determinations in this section are based on compliance with the Humboldt County General Plan, zoning ordinance, and applicable area plans and programs.

XI. NOISE — Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X

"No Impact" determinations in this section are based on Caltrans noise protocols, lack of sensitive noise receptors in the vicinity, and the Humboldt County General Plan Noise Element. Temporary construction noise will be short in duration.

XII. POPULATION AND HOUSING — Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

"No Impact" determinations in this section are based on the limited scope and rural location of the project.

XIII. PUBLIC SERVICES —

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X

"No Impact" determinations in this section are based on the limited scope and rural location of the project.

XIV. RECREATION —

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	X

"No Impact" determinations in this section are based on the scope and location of the project.

XV. TRANSPORTATION/TRAFFIC — Would the project:

a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Result in inadequate parking capacity?	☐	☐	☐	X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	X

"No Impact" determinations in this section are based on compliance with area plans and regulations and the type and location of the project.

XVI. UTILITY AND SERVICE SYSTEMS — Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

"No Impact" conclusions in this section are based on the determination that this road construction project will not cause a permanent demand on existing utility or service systems.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE —

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	X
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	X

Affected Environment, Environmental Consequences, and Mitigation Measures

Geologic Site Conditions and Environmental Setting

The project limits of location 1 are on a geologic unit that is unstable. There is a large earthflow or landslide moving toward the North Fork of the Mad River. There are more rapidly moving smaller landslides within the larger earthflow. The landslide is composed of sand/gravel/clay mixtures, overlying sedimentary and meta-sedimentary bedrock. Geotechnical investigations found that this area has a high water table and the water is contributing to the rate of landslide movement. Past landslides have caused large scarps where water has collected. In February of 2006, saturation of the hillside activated a large landslide and approximately 500 feet of SR 299 settled from 12-15 feet. In addition, the culvert located at PM R8.5 separated, causing further saturation of the failing roadway. An emergency project was initiated to make the roadway passable and the Caltrans Maintenance crews continue to work on this section of SR 299.

The project would stabilize the unstable geologic unit, which in turn should lower the potential for on-site and off-site landsliding and ground surface subsidence. Caltrans does not expect that ground surface subsidence will occur directly as a result of the lowering of the groundwater table. This presumption is due to the apparent high density of the subsurface materials. The potential for liquefaction at the site is considered to be low given the relatively high density of the subsurface materials, and the planned lowering of the groundwater surface with the dewatering should lower this potential even more. Accordingly, the potential for lateral spreading and ground surface subsidence as a result of liquefaction is considered to be low.

Biological Resources

Regulatory Setting

All projects must be evaluated to determine if endangered or threatened species may be affected. The Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) are the Federal and State laws to enforce protection of threatened and endangered species. The Federal Endangered Species Act of 1973 provides a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and to provide a program for the conservation of

such endangered and threatened species. Section 7 of this Act outlines the responsibilities of Federal agencies in protecting endangered and threatened species. It also requires each Federal agency to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. Procedural regulations governing interagency cooperation (consultation) are included in the Code of Federal Regulations.

The intent of CESA is to provide a means to conserve, protect, restore, and enhance any endangered or threatened species and its habitat. Unlike FESA, there are no state agency consultation procedures under CESA. For projects that could affect both a state and federal listed species, compliance with the Federal Endangered Species Act (FESA) will satisfy CESA if the Department of Fish and Game (DFG) determines that the federal incidental take authorization is "consistent" with CESA under F&G Code Section 2080.1.

Affected Environment

The project area lies within an actively moving landslide that was logged in the past, and is located approximately 3 miles east of Blue Lake. The project area is in the range of the Northern Spotted Owl (NSO). The NSO is a federally listed, threatened species. The U.S. Fish and Wildlife Service (USFWS) determined that areas with physical and biological features supporting foraging can constitute NSO habitat. Based on the project description, USFWS conditionally agreed that this project is not likely to have a negative impact on NSOs or NSO habitat. There are no other threatened or endangered species known to inhabit the project area.

Impacts

The building of the drainage galleries would require the removal of vegetation including grasses, shrubs and trees. There are existing access roads and approximately 950 feet of proposed new access roads (see layout map for approximate locations). In order to access two of the locations an old logging road would be used, and for purposes of impact evaluation, these access roads are being considered new. This road was “put to bed”/abandoned several years ago, but will require vegetation prior to use for construction. Once construction is completed this road will be taken out (“put back to bed”) with current road closing techniques. There are several locations along the old logging road that have failed culverts

causing erosion, and these areas will be repaired/improved to help prevent further erosion. Estimates of tree removal needed for access are noted in the following table:

Tree Type	Amount	DBH Size (inches)
Pepperwood	2	24-30”
Oak	2	16"
Alder	12	8-14"
Douglas fir	30	2"
	15	4"
	2	14"

Avoidance, Minimization, and/or Mitigation Measures

1. To avoid impacts to nesting birds pursuant to the federal Migratory Bird Treaty Act, removal of existing vegetation shall not exceed the minimum necessary to complete operations. Vegetation removal shall be limited to August 1 through January 31. Pre-removal surveys by a qualified biologist will be required for vegetation removal between February 1 and July 31.
2. Any trees removed will be replaced at a ratio of 2:1.
3. Disturbed areas will be seeded with native plants.

Hydrology and Water Quality

Regulatory Setting

The project is located within the State Water Quality Board’s (Board’s) North Coast Region. Water quality standards are defined in the Board’s Basin Plan and consist of the projection of beneficial uses through the implementation of water quality objectives. These standards apply to all waters, including wetlands and groundwater.

Affected Environment

Location 1 - PM R8.5 drains into the North Fork of the Mad River, which is on the Section 303(d) list of water bodies that are sediment/siltation impaired.

Waters that may be potentially affected by the proposed project include six wetland seeps areas and three unnamed tributaries that flow into a fourth unnamed tributary that flows into the North Fork of the Mad River.

The drainage galleries will be tapped into one at a time with the water being put into "Baker Tanks" to settle and, once clear, the water will be disposed of by either using it for dust control and/or put into the local Green Diamond Resource Company settling pond at Korbel for their use. Other options may be considered depending on discussions with the North Coast Regional Water Quality Control Board and agreed-upon permit conditions.

The stream channel below the highway will be enhanced and stabilized along an approximate 100-foot section utilizing current bioengineering techniques with rock slope protection (RSP) combined with appropriate plants, including native willows.

Location 2 - PM 27.5/27.7 drains into Redwood Creek, which is on the Section 303(d) list of water bodies that are sediment and temperature impaired.

Impacts

Location 1 - The preliminary delineation of wetlands at this location include 0.37 acres of seep wetlands. The long-range effects of dewatering on the seep wetlands are unknown at this time. There could also be temporary impacts to the intermittent stream channels and other waters during replacement of the damaged culverts, construction of a bio-engineered channel to replace the damaged down drain, and building and removal of temporary access roads. The channel will have an impermeable liner (approx. 20 feet) to prevent saturation into the landslide at this location. Also proposed are rock energy dissipaters at the outlets of the drainage galleries and horizontal drains.

Benefits include an increase in freshwater flowing into the North Fork of the Mad River and a decrease in sedimentation.

Location 2 – Caltrans does not foresee any adverse impacts to this location. Repairs to the culvert will prevent additional sedimentation from going into Redwood Creek.

Avoidance, Minimization, and/or Mitigation Measures

- Work within the streams and culverts will occur in the dry season.
- Avoid impacts by using clear water diversion when working on the culverts, if needed.
- Stabilization and enhancement of the stream channel at PM R8.5 using bioengineering techniques.
- Monitoring of the wetlands for approximately three (3) years to observe the effects of the drainage wells, if any, on the area wetlands.

- Mitigate for the estimated 0.373 acres of seep wetlands.
- Reduction of sedimentation going into the North Fork of the Mad River by stopping or slowing the landslide movement at this location.
- Removal of the invasive pampas grass (*Cortaderia Sellonana)* and planting of native grasses, trees and other native plants within the area.
- Additional native planting on the lower part of the hillside between K&K Road and the North Fork of the Mad River to help reduce sedimentation and improve water quality.
- Removal of the down drain (approximately 70 feet in length) and enhancement of the stream channel (approximately 100 feet). Caltrans plans to use bioengineering techniques to stabilize and enhance this stream channel.
- All disturbed areas will be seeded with native plants once the project is complete.
- It is Caltrans policy to implement Best Management Practices (BMPs) on all projects in order to avoid impacts to water quality.

List of Preparers

The following Caltrans North Region staff contributed to the preparation of this Initial Study:

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Public Comments and Response